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ABSTRACT

New information about reading comprehension (specifically schema theory) was applied to the teaching of literature in a study involving 33 high school students enrolled in two American literature classes. In particular, the study examined the ways in which knowledge of background information about a work could influence students' comprehension of that work. Both the 18 subjects in the experimental group and the 15 subjects in the control group were given the same short story to read and background material about the author and the work. The difference between the two groups was that the background material given to the experimental group contained several sentences related to the theme of the story that were not given to the control group. After listening to the teacher read the background information and after reading the story, the subjects were asked to write an essay in which they explained what was happening to the main character in the story. The results showed that the students in the experimental group, who had the organizing structure provided in the background material, were able to organize the content of the story and develop a workable interpretation. In addition, students in the experimental group wrote about the theme of the story, while those in the control group wrote about the author's style or on other topics not related to the plot of the story. (FL)

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Influences of Prerequisite Knowledge on Inferencing in Literature

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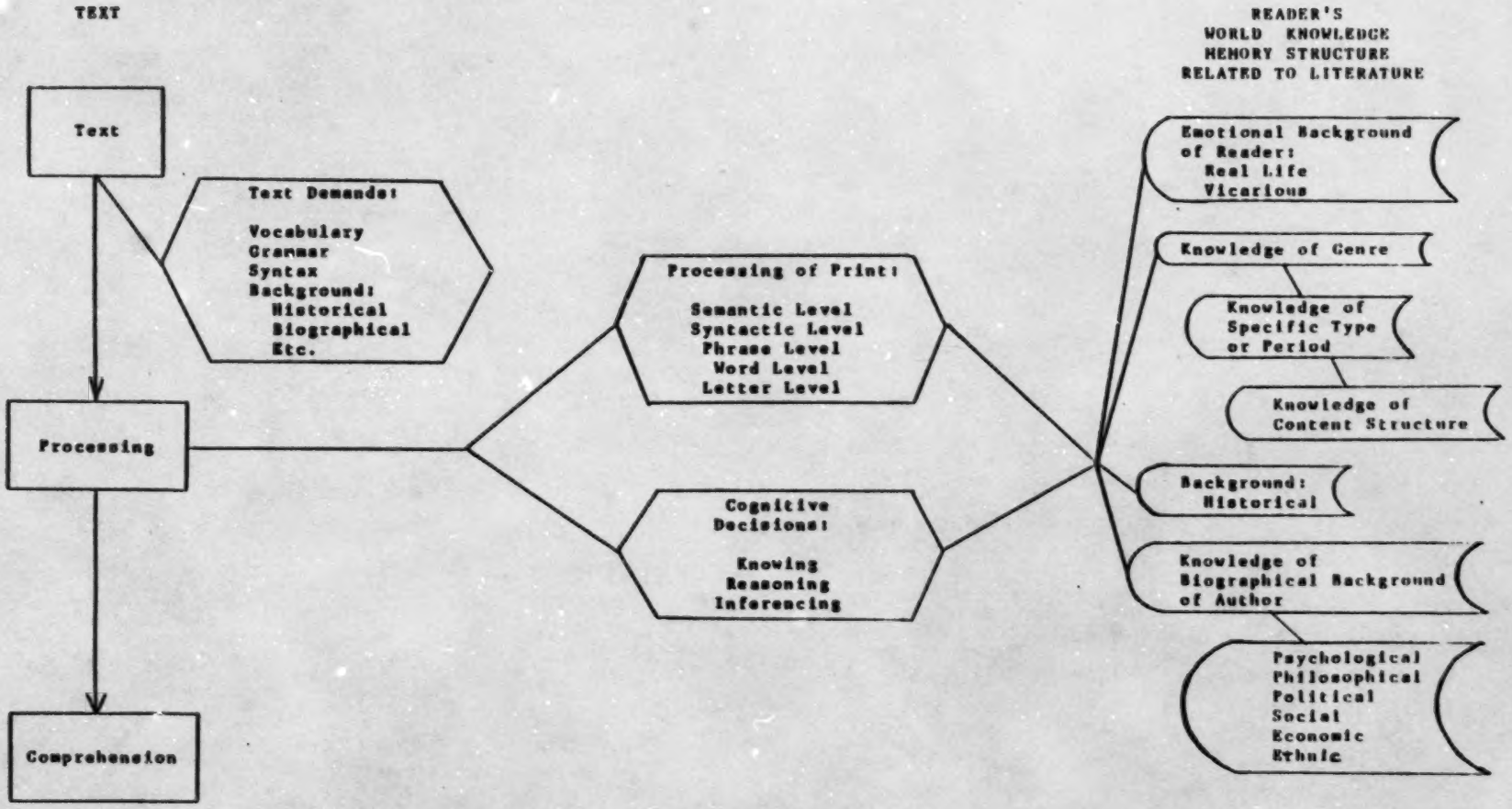
First as a teacher of English and later as someone working in the field of reading I have been interested in gaining a better insight into those things that will help students comprehend literature. The study I am going to report on today represents some preliminary work I have done in trying to apply new information about reading comprehension to the teaching of literature. As I first began thinking about this problem, I tried to incorporate parts of schema theory, i.e., the story schema necessary to provide the organizational structure, as well as the other components of literature the reader must have knowledge of if he is to adequately comprehend a work. In an attempt to build a theory about the comprehension of literature, I have developed the following model to show this in a concrete way.

Comprehension of Literature



On the left is the text being read. In this case it is assumed that the text is from a piece of literature. Some possible demands inherent in the text are suggested, i.e., vocabulary, grammar, syntax, and other background knowledge. In the actual processing of the material the brain, in a computer-like fashion, accesses various memory banks of the reader's world knowledge to pull the information needed for comprehension. The combination of this background information with the appropriate logical manipulation in processing provides the reader's comprehension of the text.

It goes without saying that the brain does not compartmentalize as neatly as this model. Comprehension is a dynamic process in which there is a constant, simultaneous interplay among all of these elements and they cannot be discretely separated.

In the experiment I conducted I was attempting to look at how background information, which I label "reader's world knowledge" in the model, can influence a student's comprehension of a given work. For this study, I chose a short story that is often anthologized in high school books and is one that cannot be read and comprehended easily without appropriate background information. The story is Ernest Hemingway's The Big Two-Hearted River. For those of you who are unfamiliar with the story, it is about a fishing trip the character Nick Adams takes to Seney, Michigan after returning from World War I. The story is quite autobiographical in nature. In this story Hemingway was experimenting with his theory of omission, a literary theory that suggests that the important elements of the story can be left out but the feelings can be put in to the point that the reader will ultimately sense what is going on in the life of the

characters. In this particular example, the author goes to great pains to explicitly elaborate on every aspect of the fishing trip. The story, for the most part, is written in short sentences and the attention of the main character is on the minute aspects of a fishing trip. Only when appropriate background is provided, can the reader realize that the character's attention to all of these minute aspects is an attempt to focus completely on the immediate details of life so as to avoid the pain of his war injuries and the horrors of his recent experience. The story was selected for this experiment because it does not follow what Kintsch and Kozminsky (1977) call the prototypical story scheme of our culture; a story consisting of exposition, complication, and resolution. Without that format and without appropriate background material, it is very difficult for the student to organize this story in a comprehendable way.

Subjects

The data was obtained from 33 American Literature students in 11th and 12th grade, in a public high school in Oakland County, Michigan.

Materials

Each student was provided with a copy of Ernest Hemingway's, The Big Two-Hearted River (1972) and a page of background material taken from Baker (1969).

Design and Procedure

The 33 students were enrolled in two American Literature classes. The first class consisted of 18 students and was designated the experimental group. The second class consisted of 15 students and was used as a control group. The experimental group was given the story and the background material and the background material was read to the students before they read the story. The same procedure was followed with the control group. The difference between the two groups was that the background material given to the experimental group contained several sentences that were not found in the control group's background material. (See appendix A). After the teacher read the background material to the classes, the classes were given ample time to read the story. After reading the story, the students were asked to write a short essay in which they explained what was happening to Nick, the character in the story. The same essay topic was displayed on the chalkboard for both groups.

Coding

In coding the essay, each was first divided into idea units, then each idea was assigned to an idea unit based on whether it referred to the text or background material in the following categories.

1) Literal text interpretation
2) Inferential text interpretation
3) Literal background interpretation
4) Inferential background interpretation
5) The fifth category I simply called "writing"

This fifth category was used when a student made a comment on the

techniques employed by the author in writing the story that did not directly relate to the story. In addition, I tabulated the number of students in each group who made negative comments or stated that they disliked the story. I also recorded the number in the experimental group that organized their ideas around the theme of war and war injuries.

Results

The results suggest some fairly clear differences between the two groups. In evaluating these results, the small size of the sample and the lack of randomization must be taken into consideration. In the first four categories (literal text interpretation, inferential text interpretation, literal background interpretation, and inferential background interpretations) there are some marked and interesting differences. Of the 18 students in the experimental group, 12 students made literal references to the text. There were a total of 39 specific references. In the control group, 8 of the 15 made literal references 14 times. Four from the experimental group and three from the control group drew inferences from the text. The biggest difference between these groups is the use of the background material. Seven of the experimental students used the background material in a literal way in the discussion of the story while none of the control group did. Similarly, seven of the experimental group made inferences based on the background material in their interpretation, and none of the students in the control group did. There is an overlapping here where 10 students made either literal or inferential reference to the background material. In the category

where students commented on writing, only three students in the experimental group made any comments on the style of writing, while nine students in the control group commented on the writing. In the category of negative comments on the story, two students of the experimental group made negative comments and six in the control group. Additionally, I tabulated the number of students in the experimental group that mentioned war and organized their papers around the war theme. Of the 18 students in this group, 10 organized their interpretation of the story around the theme of war and its effect on the character of Nick Adams.

Interpretation of Results

Mandler and Johnson (1977) have suggested the importance of schema as a general framework during encoding to facilitate the comprehension process. In this study, when the students had the organizing structure of a veteran coming back from the war and using fishing as a way of escaping the pain and suffering of his war experiences, they were able to organize the content of the story and develop a workable interpretation. Ten of 18 students in the experimental group were able to generate a coherent interpretation of what was happening to the character in the story. These students were able to draw much more from their own background and generate reasons for the character's actions. None of the students who focused on the war theme referred to or commented on the writing of the story. Interestingly enough, the two students in the experimental group who did comment on the writing, did not emphasize the theme of war.

The students in the control group, not having the theme or schema

of war to organize on, spent their energy writing about the style that the author used or on other topics not related to the plot of the story.

It is also interesting to note that in the experimental group only two students had negative things to say about the story, while in the control group six made comments about not liking the story. Obviously, there was a lack of satisfaction for those students who had no way of organizing the story in a manner in which they could comprehend it.

Implications

As one teaches literature and probably every other subject as well, it is important for the teacher to make a judgement on what prerequisite bits of knowledge or schema readers must have, if they are going to comprehend. Once that information has been determined, an instructor can make a judgement about whether or not his or her students have the prerequisite background knowledge. If it is determined that students lack this knowledge, appropriate instruction can be provided to give the students the necessary information.

This should not suggest that as background is provided students are forced into a specific interpretation. In fact, the reverse may be true. If students have the necessary knowledge to read and organize the material for comprehension, they should also have a much greater capacity to use their own knowledge of the world in making suitable inferences.

(Background given to control group)

APPENDIX A

Taken from: Ernest Hemingway, A Life Story

by Carlos Baker

Hemingway was now enthusiastically planning another trip to the Pine Barrens. Fever Jenkins was coming up in August with Larry Barnett, another former member of the Schio Country Club. Larry had been promised the loan of his father's Chalmers Master Six, a touring car with the top down, the last word in current fashion. Ernest urged Jenks to bring his Austrian carbine and a good supply of shells: it would be a darned good weapon to have around in case they saw another bear. He and Bill Smith had assembled a camping outfit for four men. They would have a peach of a time, especially if Jenks could scare up "heavy supplies of the grog." Ernest painted a happy picture of the four of them sitting around a campfire before their tent on the banks of the Black, with a full moon on the horizon and a good meal of trout in their bellies, smoking cigarettes, passing around a bottle of "the grog," and singing all the rousing songs they knew.

The trip went off as planned. The weather was good and they spent a week wading the Black and "catching and eating many beautiful trout." Ernest rolled them in cornmeal, fried them in Crisco, and basted them slowly with bacon slices.

His final camping trip of the summer went farther afield, this time to a ghost town called Seney in the Upper Peninsula of Michigan, only fifteen miles from the chilly shores of Lake Superior. The trip gave him the background for "Big Two-Hearted River," the story of Nick Adams on a lone hiking-and-fishing expedition. Ernest was not alone on the trip to Seney. His companions were a boy named Al Walker and Jack Pentecost, his high-school classmate. Their purpose was to fish the Fox River, which teemed with rainbows and brook trout. During the week that they spent on the Fox they caught nearly two hundred.

(Background given to experimental group)

APPENDIX B

Taken from: Ernest Hemingway, A Life Story
By Carlos Baker

Hemingway was now enthusiastically planning another trip to the Pine Barrens. Fever Jenkins was coming up in August with Larry Barnett, another former member of the Schio Country Club. Larry had been promised the loan of his father's Chalmers Master Six, a touring car with the top down, the last word in current fashion. Ernest urged Jenks to bring his Austrian carbine and a good supply of shells: it would be a darned good weapon to have around in case they saw another bear. He and Bill Smith had assembled a camping outfit for four men. They would have a peach of a time, especially if Jenks could scare up "heavy supplies of the grog." Ernest painted a happy picture of the four of them sitting around a campfire before their tent on the banks of the Black, with a full moon on the horizon and a good meal of trout in their bellies, smoking cigarettes, passing around a bottle of "the grog," and singing all the rousing songs they knew.

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His final camping trip of the summer went farther afield, this time to a ghost town called Seney in the Upper Peninsula of Michigan, only fifteen miles from the chilly shores of Lake Superior. The trip gave him the background for "Big Two-Hearted River," the story of Nick Adams on a lone hiking-and-fishing expedition to recuperate from the effects of his wounding in the war. He later recalled that he was still badly hurt in body, mind, spirit, and morals at this time. When he got off the train at Seney, said he, the brakeman told the engineer to pause longer than usual so that Ernest could get down. "Hold her up," the brakeman said. "There's a cripple and he needs time to get his stuff down." The remark shocked Ernest, who had never thought of himself as a cripple. After that, said he, he stopped being one in his mind. The anecdote may or may not be true. But Ernest was not alone on the trip to Seney. His companions were a boy named Al Walker and Jack Pentecost, his high-school classmate. Their purpose was to fish the Fox River, which teemed with rainbows and brook trout. During the week that they spent on the Fox they caught nearly two hundred.

Bibliography

Baker, Carlos H. Ernest Hemingway ; A Life Story. New York: Scribner, 1969.

Hemingway, Ernest. The Nick Adams Stories. New York: Scribner, 1972.

Kintsch, Walter, and Kozminsky, Ely. "Summarizing Stories After Reading and Listening." Journal of Educational Psychology 69 (1977): 492.

Mandler, Jean M. and Johnson, Nancy S. "Remembrance of Things Parsed: Story Structure and Recall." Cognitive Psychology 9 (1977): 111-151.